Appendix E-5: Admiralty Inlet

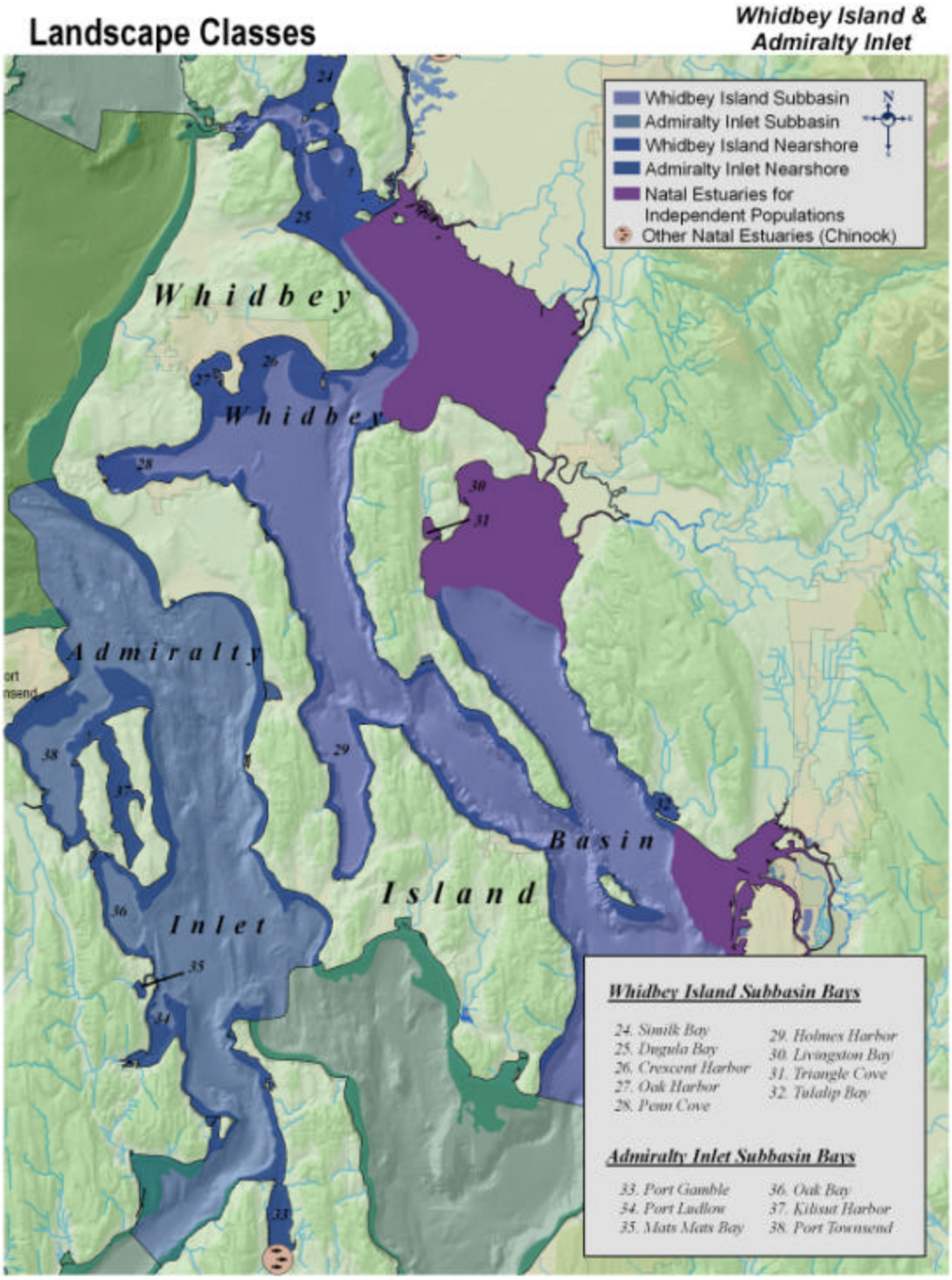

Figure E-5.1 Admiralty Inlet and Whidbey Sub-basin Landscape Classes

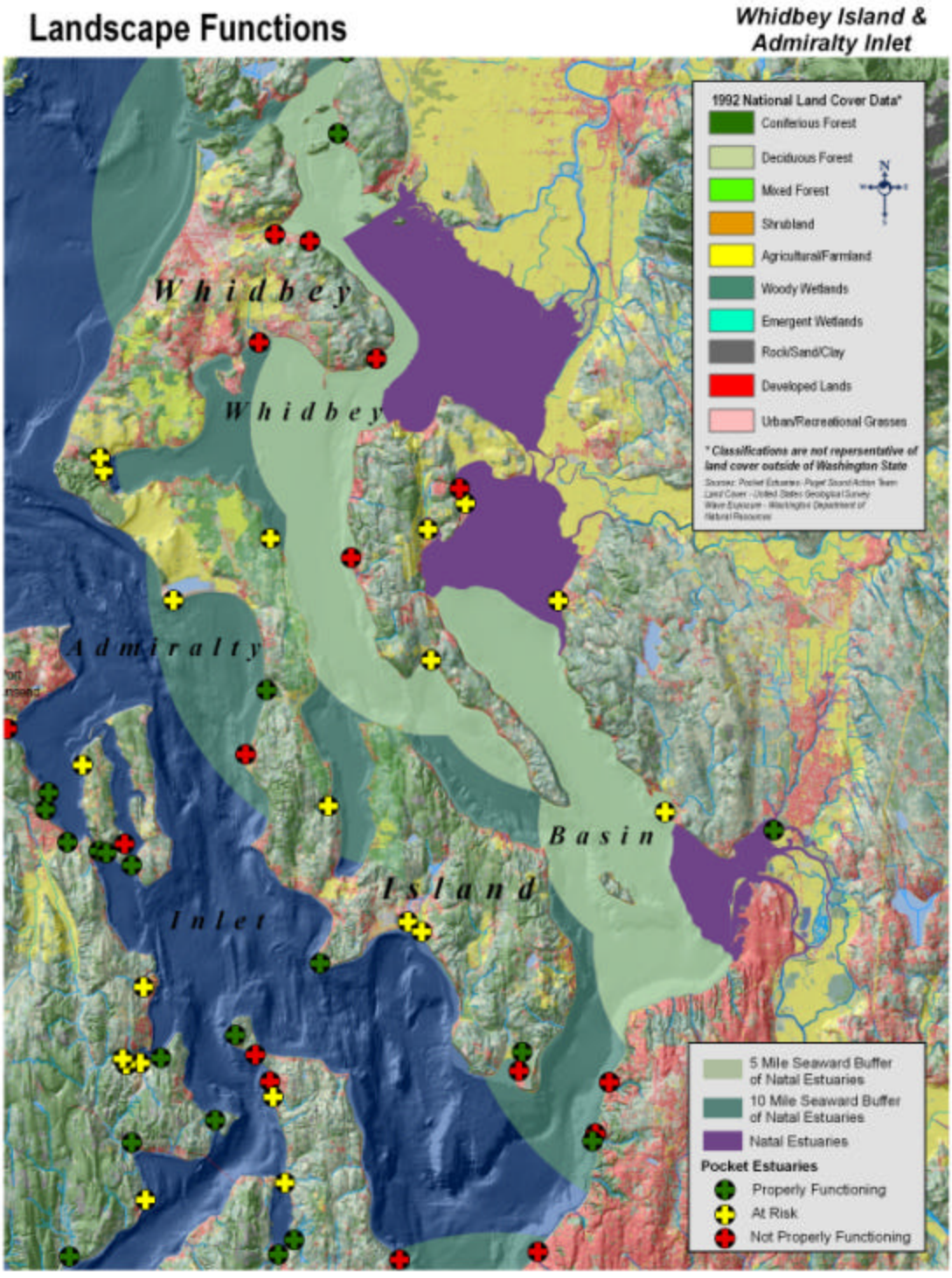

Figure E-5.2 Admiralty Inlet and Whidbey sub-basin landscape functions

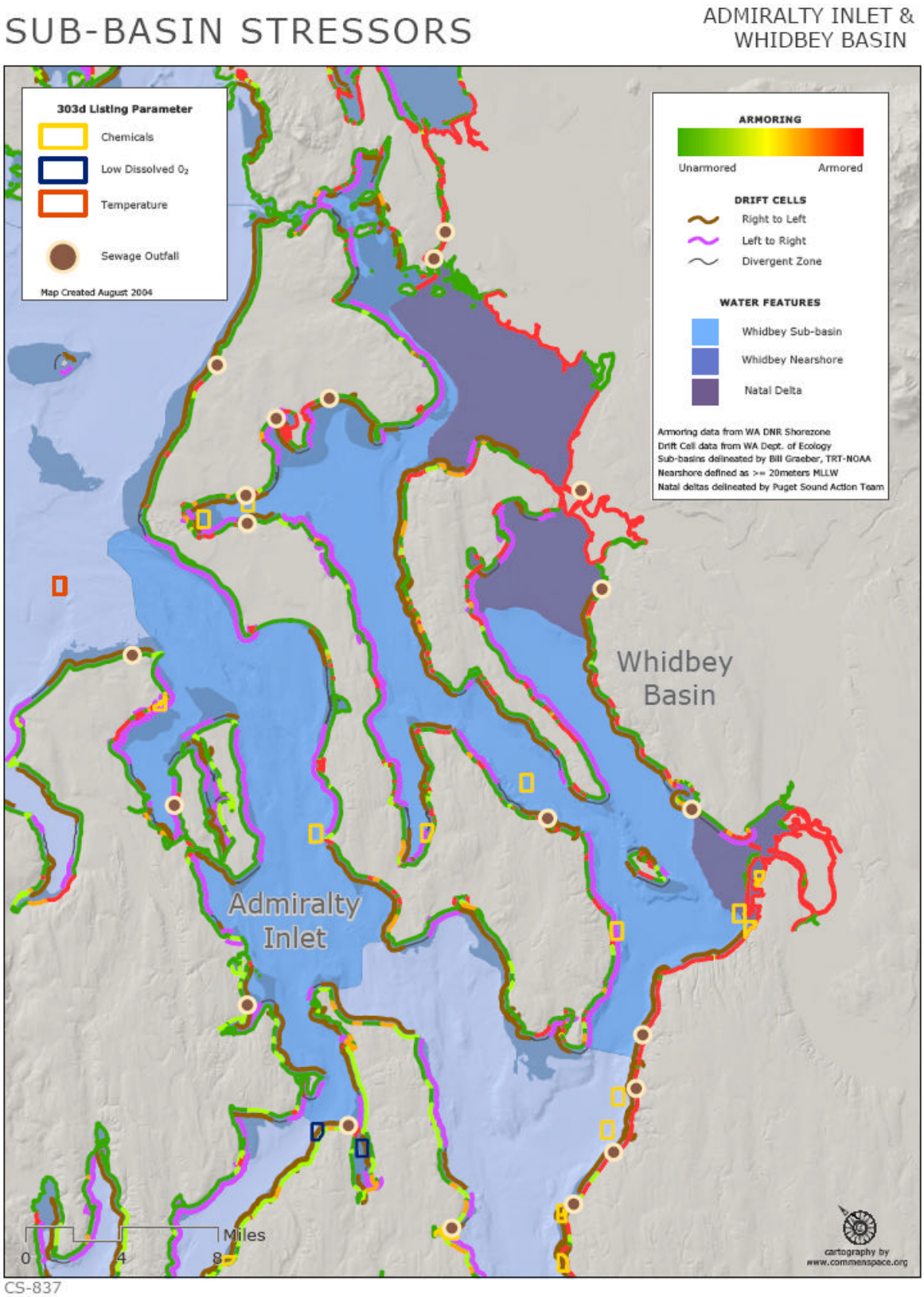

Figure E-5.3 Admiralty Inlet and Whidbey Sub-basins stressors

Figure E-5.4 Admiralty Inlet Sub-basin pocket estuary locations, likely Chinook functions, and observed stressors

Pocket Estuary Identifier	Latitude	Longitude	Photo ID #	Freshwater (Y/N)	Likely Chinook Functions			Shoreline Development	Urbanization	Diking and Filling	Susceptibility to spills and discharges	Aquaculture related substrate alterations	Vulnerability to Sea Level Rise	Final Chinook Function Score			
					Feeding	Osmoreg.	Refuge										
AI1- Keystone	48.113	122.597	010411-131906	N	x		x	x		x	x			AR	PF = Property Functioning		
AI2 - Hancock Lake	48.079	122.612	010411-132042	N			x							PF	NPF=Not Properly Functioning		
AI3 - Lagoon Point	47.97	122.549	010411-132706	N	x		x	x	x	x	x		x	NPF	AR=At Risk		
AI4 - Double Bluff	47.931	122.614	010426-142724	N	x		x							PF			
AI5 - Foulweather Bluff	47.921	122.598	010426-142816	Y										PF			
AI6 - Foulweather Lagoon	47.907	122.586	010426-142944	N			x							NPF*			
AI7 - Loon Bay	47.899	122.583	010426-143238	Y	x	x	x	x	x	x	x			NPF			
AI8 -	47.854	122.572	010426-143440	N	x		x	x		x			x	AR			
AI9 - Point Julia	47.824	122.564	010426-143618	Y	x	x	x	x		x	x		x	AR			
AI10 - Port Gamble 1	47.816	122.576	010426-143906	Y	x	x	x	x						PF			
AI11 - Port Gamble 2	47.843	122.681	010522-114016	Y	x	x	x			x	x			PF			
AI12 - South Point	47.873	122.693	010522-114218	Y	x	x	x	x	x	x	x		x	AR			
AI13 - Shine	47.886	122.628	010522-114844	N	x		x	x		x	x			PF			
AI14 - Bywater Bay	47.918	122.672	010522-115732	N	x		x							PF			
AI15 - Port Ludlow 1	47.915	122.688	010522-115744	Y	x	x	x	x					x	PF			
AI16 - Port Ludlow 2	47.914	122.699	010522-115810	Y	x	x	x	x	x	x	x		x	AR			
AI17 - Port Ludlow 3	47.917	122.702	010522-120304	Y	x	x	x	x	x		x		x	AR			
AI18 - Port Ludlow 4	47.955	122.687	010522-120920	Y	x	x	x		x		x		x	AR			
AI19 - MatsMats Bay	48.026	122.725	010522-121648	N	x		x	x			x		x	AR			
AI20 - Oak Bay 1	48.025	122.719	010522-121816	N	x		x			x				PF			
AI21 - Oak Bay 2	48.019	122.699	010522-123502	N	x		x							PF			
AI22 - Scow Bay 1	48.03	122.705	010522-123628	Y						x				PF			
AI23 - Scow Bay 2	48.046	122.112	010522-123722	N	x		x			x				NPF			
AI24 - Kilisut	48.071	122.74	010522-124154	Y	x	x	x							PF			
AI25 - Walan Point	48.03	122.75	010522-124826	Y	x	x	x			x	x		x	AR			
AI26 - Hadlock	48.047	122.768	010522-125014	Y	x	x	x			x			x	PF			
AI27 - Chimacum Creek	48.056	122.766	010522-125248	N	x		x		x		x			PF			
AI28 - Kala Point	48.089	122.8	010522-125612	N									x	PF			
AI29 - Glen Cove								x		x	x			NPF			

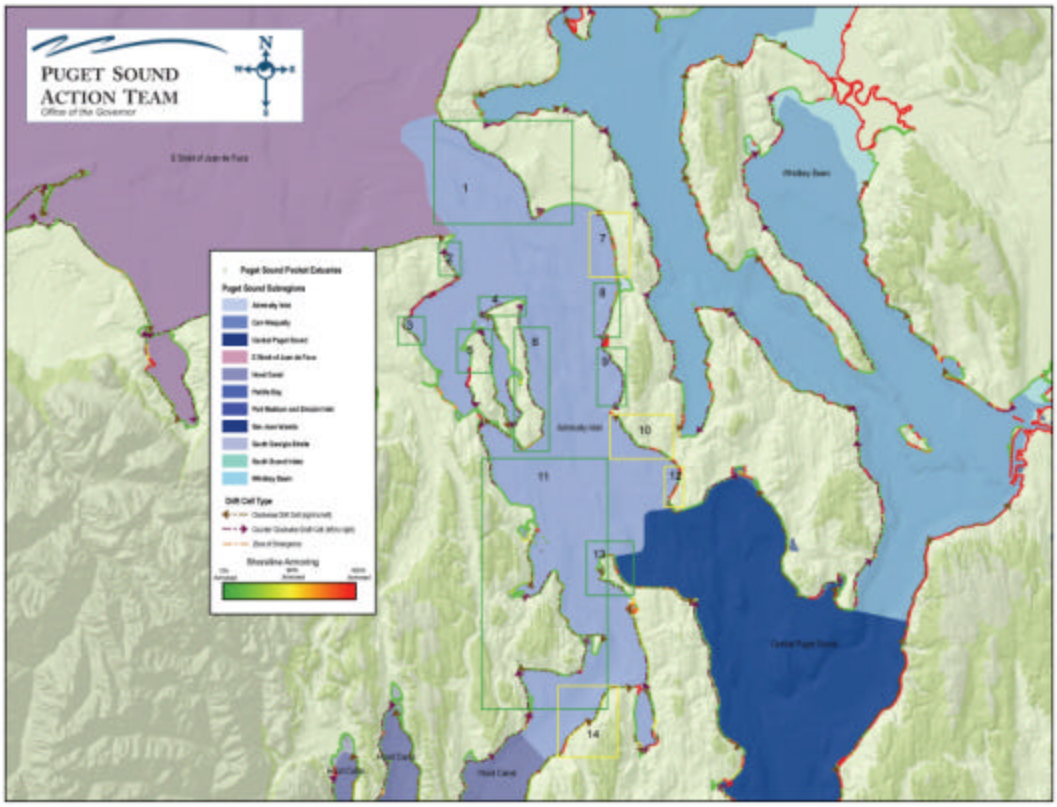

Figure E-5.5 Admiralty Inlet sub-basin analysis of drift cells and shoreline armoring

Admiralty Inlet

Box 1 - This large drift cell transports large amounts of sediment southward along East Whidbey Island due to its exposure to strong ocean swells and westerly winds from the Strait of Juan de Fuca. The erosion of the bluffs also supports an extensive shallow subtidal shelf just offshore.

Box 2 – While this is a short drift cell, it is important in maintaining the shallow shelf and point bar at Fort Worden State Park.

Box 3 – This short drift cell diverges to the north and south and supports spit structures separating pocket estuaries in Port Townsend Bay.

Boxes 4, 5 and 6 – These drift cells interact with tidal currents at the opening of Kilisut Harbor to create a series of spits and shallow sub-tidal shelves.

Boxes 7 and 8 – In the vicinity of Hancock Lake, one drift cell continues northward toward the keystone ferry landing supporting the spit structure that separates Crocket lake from Admiralty inlet and the main road to the ferry. The level of armoring is a concern because of the short

distance this drift cell covers and restoration should be considered here. Southward of Hancock Lake, the drift cell supports a depositional feature, which was once a pocket estuary but is now a highly modified residential development with dredged navigation channels. Protecting this drift cell could prevent future coastal flooding of that development.

Boxes 9, 10 and 12 – This shoreline consists of two small convergent drift cells which support a large depositional point on which many houses are built. Like box 8 above, the continued function of these drift cells may lessen the risk of coastal flooding in this community. Sediments from bluffs in boxes 10 and 12 also likely support the wide shallow sub-tidal shelf just offshore of this beach.

Box 11 – This largely intact shoreline has low levels of shoreline development, a complex pattern of nearshore drift and an unusual concentration of pocket estuaries for this part of Puget Sound. It is also the first Admiralty Inlet shoreline adjacent to the entrance to Hood Canal so it likely supports a number of migrating populations of Chinook, Bull Trout and Hood Canal Summer Chum salmon.

Box 13 – This shoreline's unique shape is due to the interaction of strong tidal currents entering Hood Canal and Admiralty Inlet along with significant northward littoral drift along the shoreline. The depositional features include Foulweather Bluff lagoon, an unique brackish pond important for migratory birds as well as an extensive intertidal marsh.

Box 14 – This drift cell should be considered for restoration. At present, the source of sediment moving northward is likely from small streams. However, an extensive intertidal and shallow subtidal shelf structure exists at the mouth of Port Gamble, which may have historically been built from a combination of longshore sediment drift and tidal currents.